IN THE CLAIMS:

The status and content of the claims follows

1. (previously presented) A stereolithographic method of forming three-dimensional structure comprising:

a) ejecting drops of first and second different liquefied materials in a pattern and allowing the drops to solidify to form a layer of a three-dimensional object, wherein the second liquefied material is deposited to form portions of the layers which define an external surface of the three-dimensional object;

b) surrounding the layer with a viscous liquid and controlling the level of the viscous liquid to be essentially level with the uppermost level of the portion of the layer formed from the drops of liquefied material;

c) ejecting drops of the first and second liquefied materials in a pattern and allowing the drops to solidify and form another layer of the three-dimensional object;

d) raising the level of the viscous liquid to a level proximate the uppermost level of the newly formed layer; and

e) repeating steps c) and d).

2. (previously presented) A stereolithographic method as set forth in claim 1, wherein the first material comprises resin.

3. (previously presented) A stereolithographic method as set forth in claim 1, wherein the second material has a melting point which is different from the melting point of the first material.

4. (previously presented) A stereolithographic method as set forth in claim 2, wherein the second material comprises metal.

5. (previously presented) A stereolithographic method as set forth in claim 1, wherein the second material and the first material comprise metal.

6. (previously presented) A stereolithographic method as set forth in claim 1, further comprising the step of heating the three-dimensional object to a degree sufficient to soften the second material and induce it to flow into voids formed between solidified drops of the first material.

7. (original) A stereolithographic method as set forth in claim 5, further comprising the step of heating the three-dimensional object to a degree sufficient to alloy the solidified drops of the first and second materials.

8. (previously presented) A stereolithographic method as set forth in claim 2, comprising:

using a thermoplastic resin as the first liquefied material; and

using metal as the second material.

9. (previously presented) A stereolithographic method as set forth in claim 2, comprising:

using a UV settable resin as the first material; and

irradiating the UV settable resin after deposition to cure the resin.

10. (original) A stereolithographic method as set forth in claim 9, further comprising using a thermoplastic resin as the second material.

11. (currently amended) A stereolithographic method as set forth in claim 10, further comprising heating the thermoplastic resin so that [[if]] it flows into the small voids between hardened drops of the UV settable resin.

12. (previously presented) A stereolithographic method as set forth in claim 8, further comprising using a copper as the second material.

13. (previously presented) A stereolithographic method as set forth in claim 12, further comprising heating the metal so that it softens and flows into the small voids between hardened drops of the resin.

14. (original) A stereolithographic method as set forth in claim 1, further comprising using a surface of the viscous liquid as a surface onto which drops of liquefied material can be ejected and using the viscous liquid to support portions of the three-dimensional structure during its formation.

15. (original) A stereolithographic method as set forth in claim 1, further comprising using the viscous liquid as an impregnation material which enters voids which are formed between solidified drops of the liquefied material.

16. (original) A stereolithographic method as set forth in claim 15, wherein the step of using the viscous material as an impregnation material comprises removing excess viscous material from the three-dimensional structure.

17. (previously presented) A stereolithographic method as set forth in claim 15, wherein at least the viscous material which has entered the voids is hardened to increase smoothness of the external surface of the three-dimensional object.

18-20. (cancelled)

21. (previously presented) A method of forming a three-dimensional object comprising:

ejecting drops of liquefied material into a vat using an ejector;

scanning the ejector in first and second mutually opposed directions to deposit and solidify said drops in a predetermined pattern to sequentially form layers of the three-dimensional object;

supplying a viscous liquid into the vat to a level which is essentially level with the top of a most recently formed layer of the three-dimensional object, wherein said viscous liquid both supports the material being formed into a three-dimensional object and fills in voids between drops of the material forming the three-dimensional object; and

removing the object from the viscous liquid in the vat and then solidifying the viscous liquid remaining in the voids between solidified drops of the material forming the object.

22. (original) A method as set forth in claim 21, wherein the step of ejecting comprises ejecting drops of first and second materials and controlling the drops of the second

material to form a predetermined portion of the layer with respect to a portion of the layer which is formed of the drops of the first material.

23. (original) A method as set forth in claim 22, further comprising heating the second material so that it flows into recesses defined by the solidified drops of the first material.

24. (original) A method as set forth in claim 22, further comprising heat treating the first and second materials and forming an alloy of the same.

25. (original) A method as set forth in claim 21, wherein the viscous liquid is highly viscous at room temperature and is not detrimentally reactive with the liquefied material.

26-30. (cancelled)

31. (previously presented) The method of claim 21, further comprising raising the level of the viscous liquid to a level of a last-formed layer of the three-dimensional object.

32. (previously presented) The method of claim 21, wherein said viscous liquid comprises a resin.

33. (previously presented) The method of claim 21, further comprising depositing drops of the liquefied material to form at least a portion of a layer of the object directly on a surface of

the viscous liquid, the viscous liquid supporting that at least a portion of a layer without other underlying support.

34. (previously presented) The method of claim 21, further comprising a sensor for sensing a level of the viscous liquid being poured into the vat, the sensor regulating a system for adding more viscous liquid to the vat.

35. (previously presented) The method of claim 21, wherein solidifying the viscous liquid remaining in the voids further comprises polymerizing the viscous liquid remaining in the voids.

36. (previously presented) The method of claim 1, wherein said viscous liquid comprises silicone oil, melted wax or molten metal.

37. (previously presented) The method of claim 16, wherein the impregnation material comprises a resin.

38. (previously presented) The method of claim 1, wherein said first and second materials comprise silver and tin solder respectively.